

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

3SHAPE A/S,)
)
 Plaintiff,)
)
 v.) C.A. No. 18-886-LPS
)
 ALIGN TECHNOLOGY, INC.,)
)
 Defendants.)

JOINT CLAIM CONSTRUCTION CHART

Pursuant to the Order adopting the parties stipulation (D.I. 68), Plaintiff 3Shape A/S (“3Shape”) and Defendant Align Technology, Inc. (“Align”) submit the following Joint Claim Construction Charts for U.S. Patent Nos. 9,629,551 (the “‘551 patent”), 9,962,244 (the “‘244 patent”), and 10,349,042 (the “‘042 patent”) (collectively, the “Asserted Patents”). The Asserted Patents and those portions of the intrinsic record relied upon are attached hereto as Exhibits A1, B1, and C1. The file histories of the Asserted Patents and those portions of the intrinsic record relied upon are attached hereto as Exhibits A2, A5, B2, B7-B11, and C2-C14. The pleadings and orders submitted/ordered in post-grant proceedings pertaining to the Asserted Patents and those portions of the intrinsic record relied upon are attached hereto as Exhibits A3-A4 and B3-B6. The parties reserve all rights to identify any intrinsic evidence to counter the opposing party’s intrinsic evidence.

Joint Claim Construction Chart (U.S. Patent No. 9,629,551)

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support ¹	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
“... for detecting a movable object in a location, when scanning a rigid object in the location by means of a 3D scanner for generating a virtual 3D model of the rigid object” (Claims 1, 23, 25)	Agreed to construction: Preamble is limiting No further construction is necessary		Agreed to construction: Preamble is limiting No further construction necessary	
“excluded volume in space where no surface can be present in both the first	“excluded volume in space that is common to both the first and second 3D representations where no surface from either of the	<i>See, e.g.,</i> Ex. A1 at: 2:62-3:6; Figs. 13d, 14d, 15d; <i>see also</i> Ex. A2 Non-Final Office Action dated January 14, 2016, at Pages 3-8;	Defendant proposes a construction for the complete claim phrases. Defendant's proposed	See the intrinsic evidence cited below for the complete claim phrases.

¹ The parties reserve the right to rely on any evidence cited in the Joint Claim Construction Charts. The parties note that the inclusion of a pin cite for a particular evidentiary citation does not preclude reliance on any other part of that evidence. Further, the parties note that, for any citations that include citations to other intrinsic evidence, the cited intrinsic evidence is also relied upon as supporting the construction.

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support ¹	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
3D representation and the second 3D representation "(Claims 1, 23, 25)	3D representations should be present"	<p>Amendment and Reply dated July 13, 2016, at Page 11; Final Office Action dated August, 19, 2016, at Page 3;</p> <p>Amendment After Final dated November 21, 2016, at Pages 2-12;</p> <p>Interview Summary dated December 1, 2016, at Pages 1-2; and</p> <p>Applicant-Initiated Interview Summary dated December 5, 2016;</p> <p><i>see also</i> Ex. A3 at: Patent Owner's Preliminary Response, (Paper 5) at Pages 12-22;</p> <p>Decision Denying Institution of Inter Partes Review, (Paper 7) at Pages 5-6;</p> <p><i>see also</i> Ex. A4 at: Patent Owner's Preliminary Response, (Paper 5) at Pages 12-21;</p> <p>Decision Denying Institution of Inter Partes Review, (Paper 6) at Pages 5-6.</p>	constructions are below.	

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support ¹	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
“determining for the first 3D representation a first excluded volume in space where no surface can be present in both the first 3D representation and the second 3D representation” (asserted independent claims 1, 23, and 25)	Not indefinite; No further construction necessary beyond that of nested claim phrase discussed above.	<i>See, e.g.</i> , Ex. A1 at: 8:63-66; 9:8-12; 15:41-43.	Indefinite or if determined definite, “bringing the 3D representation together in a common reference system, then merging 3D representations to create the virtual 3D model or a provisional virtual 3D model, and after 3D representations are aligned and registered, defining a common overlapping volume in space where no surface can be present from either of the 3D representations”	<i>See, e.g.</i> , Ex. A1 ('551 patent) at 1:61-2:30, 2:62-3:43, 4:21-5:19, 6:9-59, 8:50-9:2, 15:9-17:26, 19:54-20:49, 20:53-21:12, 22:11-27:60, Figs. 1-18 Ex. A2 ('551 File History) at Office Action (January 14, 2016), Response to OA (July 13, 2016), Office Action (Aug. 19, 2016) at 2-5, Response to OA (Nov. 21, 2016), Interview Summary (Dec. 1, 2016), Interview Summary (Dec. 6, 2016) Ex. A3 (IPR2018-00195, Patent Owner's Preliminary Response (March 3, 2018)) at 13-21, 29-32 Ex. A3 (IPR2018-00195, Institution Decision (May 24, 2018)) at 5-12 Ex. A4 (IPR2018-00196, Patent Owner's Preliminary

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support ¹	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
				<p>Response (March 3, 2018)) at 13-21, 29-32</p> <p>Ex. A4 (IPR2018-00196, Institution Decision (May 24, 2018)) at 5-12</p> <p><i>See also</i> Ex. A5 (EP1607041)</p>
<p>“determining for the second 3D representation a second excluded volume in space where no surface can be present in both the first 3D representation and the second 3D representation” (asserted independent claims 1, 23, and 25)</p>	<p>Not indefinite; No further construction necessary beyond that of nested claim phrase discussed above.</p>	<p><i>See, e.g.</i>, Ex. A1 at: 8:63-66; 9:8-12; 15:41-43.</p>	<p>Indefinite or if determined definite, “bringing the 3D representation together in a common reference system, then merging 3D representations to create the virtual 3D model or a provisional virtual 3D model, and after 3D representations are aligned and registered, defining a second common overlapping volume</p>	<p><i>See, e.g.</i>, Ex. A1 (‘551 patent) at 1:61-2:30, 2:62-3:43, 4:21-5:19, 6:9-59, 8:50-9:2, 15:9-17:26, 19:54-20:49, 20:53-21:12, 22:11-27:60, Figs. 1-18</p> <p>Ex. A2 (‘551 File History) at Office Action (January 14, 2016), Response to OA (July 13, 2016), Office Action (Aug. 19, 2016) at 2-5, Response to OA (Nov. 21, 2016), Interview Summary (Dec. 1, 2016), Interview Summary (Dec. 6, 2016)</p> <p>Ex. A3 (IPR2018-00195, Patent Owner's Preliminary</p>

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support ¹	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
			in space where no surface can be present from either of the 3D representations”	Response (March 3, 2018) at 13-21, 29-32 Ex. A3 IPR2018-00195, Institution Decision (May 24, 2018) at 5-12 Ex. A4 IPR2018-00196, Patent Owner's Preliminary Response (March 3, 2018) at 13-21, 29-32 Ex. A4 IPR2018-00196, Institution Decision (May 24, 2018) at 5-12 <i>See also</i> Ex. A5 (EP1607041)
“disregarded in the generation of the virtual 3D model / disregard the portion of the surface in the first 3D representation” (asserted claims 1, 13, and 23-25)	Not indefinite; No construction necessary.	<i>See, e.g.</i> , Ex. A1 at: 29:61-30:2; 30:46-55; 31:35-32:46 (Claims, 13, 23-25); 3:15-18; Ex. A3 at: Patent Owner's Preliminary Response, (Paper 5) at Pages 22-27; <i>see also</i> Ex. A4 at:	Indefinite or if determined definite, “comparing the excluded volume with the 3D representations and ignoring any data located in the excluded volume in	<i>See, e.g.</i> , Ex. A1 ('551 patent) at 2:62-3:6, 4:57-5:19, 8:50-63, 22:64-23:13, 23:14-35, 23:62-24:19, 24:22-29, 24:46-54, 26:21-31, 27:48-60, Figs. 1-18 Ex. A2 ('551 File History) at Office Action (January 14, 2016), Response to OA (July 13, 2016), Office

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support ¹	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
		Patent Owner's Preliminary Response, (Paper 5) at Pages 21-26.	the generation of a 3D model”	Action (Aug. 19, 2016) at 2-5, Response to OA (Nov. 21, 2016), Interview Summary (Dec. 1, 2016), Interview Summary (Dec. 6, 2016) Ex. A3 (IPR2018-00195, Patent Owner's Preliminary Response (March 3, 2018) at 13-21, 29-32 Ex. A3 IPR2018-00195, Institution Decision (May 24, 2018) at 5-12 Ex. A4 IPR2018-00196, Patent Owner's Preliminary Response (March 3, 2018) at 13-21, 29-32 Ex. A4 IPR2018-00196, Institution Decision (May 24, 2018) at 5-12 <i>See also</i> Ex. A5 (EP1607041)

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support ¹	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
“the subscans” (asserted claims 16 and 17)	<p>Not indefinite;²</p> <p>No construction necessary, but if deemed necessary:</p> <p>“multiple acquired subscans of a location that are already incorporated into a provisional virtual 3D model” for Claim 16. See claim 17, regarding use of term “subscans” in Claim 17.</p>	<p><i>See, e.g.</i>, Ex. A1 at: 8:1-9; 7:37-39; 7:40-42; 8:66-9:2; 13:36-38; 15:26-40; 4:6-8; 7:32-36; 7:37-39; 11:53-55; 16:21-17:26; 30:66-31:4; 31:5-8 (Claims 16-17).</p>	<p>Indefinite for lacking antecedent basis</p> <p>or</p> <p>if determined definite, “multiple scans of a portion of the same portion of a 3D object which are combined to form a first part of a 3D model”³</p>	<p><i>See, e.g.</i>, Ex. A1 ('551 patent) at 1:26-60, 4:16-25, 3:16-49, 5:11-31, 7:28-42, 8:63-9:2, 11:48-12:56, 16:21-18:58, 19:56-20:49, 22:48-63, 27:61-28:16, Figs. 1-20</p> <p>Ex. A2 ('551 File History) at Office Action (January 14, 2016), Response to OA (July 13, 2016), Office Action (Aug. 19, 2016) at 2-5, Response to OA (Nov. 21, 2016), Interview Summary (Dec. 1, 2016), Interview Summary (Dec. 6, 2016)</p> <p>Ex. A3 (IPR2018-00195, Patent Owner's Preliminary Response (March 3, 2018) at 13-21, 29-32</p>

²3Shape will be filing a paper to replace the version of the '551 Patent attached to its Amended Complaint to the version that includes the Certificate of Correction of August 13, 2018, that includes corrections to the claim language to address any alleged antecedent basis issues.

³ Plaintiff has not moved to amend its complaint to add any corrected claims to the '551 Patent. Defendant's proposed construction addresses the term as it appears in the currently asserted patent claims. Align does not propose construction for terms not presently before the Court. Align reserves all rights.

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support ¹	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
				Ex. A3 IPR2018-00195, Institution Decision (May 24, 2018) at 5-12 Ex. A4 IPR2018-00196, Patent Owner's Preliminary Response (March 3, 2018) at 13-21, 29-32 Ex. A4 IPR2018-00196, Institution Decision (May 24, 2018) at 5-12

Joint Claim Construction Chart (U.S. Patent No. 9,962,244)

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendants' Proposed Construction	Defendants' Identification of Intrinsic Support
“a multichromatic light source for providing a multichromatic probe light for illumination of the object” (asserted independent claims 1, 29)	No construction necessary.	<i>See, e.g.</i> , Ex. B1 ('244 Patent) at: 2:17-19; 3:11-18; 5:17-25; 9:16-18; 13:41-44; 14:40-41; 14:52-53; 14:64-65; 15:16-17; 15:63-16:4; Fig. 1, 101.	“a white light or multicolor light source which illuminates an object”	<p><i>See, e.g.</i>, Ex. B1 ('244 patent) at 1:4-10, 1:13-2:47, 3:11-29, 4:9-62, 5:16-25, 8:29-32, 9:15-50, 12:10-29, 13:41-14:4, 14:38-15:49, 15:63-16:4, 16:36-51, 17:61-18:3, 19:31-24:39, Figs. 1 and 5</p> <p>Ex. B2 ('244 File History): Office Action (July 17, 2017), Response to OA (Nov. 17, 2017), Notice of Allowance (Dec. 28, 2017)</p> <p>Ex. B5, PGR2018-00103 Patent Owner's Preliminary Response (Paper No. 10) (February 19, 2019)</p> <p>Ex. B6, PGR2018-00104, Patent Owner's Preliminary Response (Paper No. 6) (February 19, 2019)</p> <p>Ex. B6, PGR2018-00104, Institution Decision (Paper</p>

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendants' Proposed Construction	Defendants' Identification of Intrinsic Support
				<p>No. 8) (May 13, 2019) at 2-4</p> <p><i>See also</i> Exs. B7 (WO2010145669), B8 (U.S. Patent No. 7,698,068), B9 (U.S. Patent No. 8,102,538), B10 (WO2012083967), B11 (JP2004029373)</p>
“a block of said image sensor pixels” (asserted independent claims 1, 29)	“one or more pixels of said image sensor pixels”	<p><i>See, e.g.</i>, Ex. B1 ('244 Patent) at: Abstract; 2:20-27; 2:30-32; 2:38-40; 3:30-40; 4:1-8; 5:30-34; 6:13-28; 14:42-48; 14:54-56; 14:66-67; 15:5-12; 15:18-20; 15:45-49; 16:52-56; 16:66-17:17; 18:21-23.</p>	“two-dimensional array of adjacent sensor elements (for example, a 4x4, 6x6, or 8x8 array)”	<p><i>See, e.g.</i>, Ex. B1 ('244 patent) at abstract, 2:14-64, 3:30-40, 3:57- 4:8, 5:26-7:67, 9:19-42, 9:51-65, 10:24-29, 11:59-12:9, 13:45-61, 14:38-15:49, 16:10-13, 16:52-17:60, 18:8-19:29, 19:31-24:39, Figs. 2A-2B, 3A, 3B, 4 Fig. 6A (identifying portion 663 as corresponding to a block of image sensor pixels), Fig. 6B, Fig. 6C</p> <p>Ex. B2 ('244 File History): Office Action (July 17, 2017), Response to OA (Nov. 17, 2017), Notice of Allowance (Dec. 28, 2017)</p>

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendants' Proposed Construction	Defendants' Identification of Intrinsic Support
“surface color information” (asserted independent claims 1, 29)	“information relating to surface color”	<p><i>See, e.g.</i>, Ex. B1 ('244 Patent) at: Abstract; 2:41-59; 6:53-59; 7:3-7; 7:55-56.</p>	“apparent color of an object surface”	<p><i>See, e.g.</i>, Ex. B1 ('244 patent) at abstract, 1:6-9, 1:13-3:56, 4:1-40, 5:35-59, 6:53-8:18, 7:3-67, 8:62-9:29, 10:21-29, 10:45-53, 10:63-11:5, 11:15-13:40, 14:38-15:49, 16:52-60, 17:61-18:64, 19:19-29, 19:31-24:39, Figs. 1, 5, 6C</p> <p>Ex. B2 ('244 File History): Office Action (July 17, 2017), Response to OA (Nov. 17, 2017), Notice of Allowance (Dec. 28, 2017)</p> <p>Ex. B5, PGR2018-00103 Patent Owner's Preliminary Response (Paper No. 10) (February 19, 2019)</p> <p>Ex. B5, PGR2018-00103, Institution Decision (Paper No. 12) (May 13, 2019)</p> <p>Ex. B6, PGR2018-00104 Patent Owner's Preliminary Response (Paper No. 6) (February 19, 2019)</p>

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendants' Proposed Construction	Defendants' Identification of Intrinsic Support
				<p>Ex. B6, PGR2018-00104, Institution Decision (Paper No. 8) (May 13, 2019)</p> <p><i>See also</i> Exs. B7 (WO2010145669), B8 (U.S. Patent No. 7,698,068), B9 (U.S. Patent No. 8,102,538), B10 (WO2012083967), B11 (JP2004029373)</p>
“a data processing system configured to derive surface color information for the block of said image sensor pixels from at least one of the 2D images used to derive the surface geometry information”	See below.	See below.	“a processor that generates both surface color information and surface geometry information from the same two-dimensional color image for each block of pixels”	<p><i>See, e.g.</i>, Ex. B1 ('244 patent) at abstract, 1:6-9, 1:13-3:56, 2:41-3:40, 4:17-40, 5:35-59, 6:53-8:18, 7:14-29, 9:1-29, 10:21-29, 10:45-53, 10:63-11:5, 11:15-13:40, 14:5-9, 14:38-15:49, 16:52-60, 17:61-24:39, Figs. 1-6</p> <p>Ex. B2 ('244 File History): Office Action (July 17, 2017), Response to OA (Nov. 17, 2017), Notice of Allowance (Dec. 28, 2017)</p>

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendants' Proposed Construction	Defendants' Identification of Intrinsic Support
(asserted independent claims 1, 29)				<p>Ex. B3 (IPR2019-00117) Patent Owner's Preliminary Response (Paper No. 6) (March 4, 2019)</p> <p>Ex. B4 (IPR2019-00118) Patent Owner's Preliminary Response (Paper No. 6) (March 4, 2019)</p> <p>Ex. B5, PGR2018-00103 Patent Owner's Preliminary Response (Paper No. 10) (February 19, 2019) at 2-4, 8-20, 32-47</p> <p>Ex. B5, PGR2018-00103, Institution Decision (Paper No. 12) (May 13, 2019) at 2-4, 13-14, 16-23</p> <p>Ex. B6, PGR2018-00104 Patent Owner's Preliminary Response (Paper No. 6) (February 19, 2019) at 2-4, 8-20, 29-30, 32-41</p> <p>Ex. B6, PGR2018-00104, Institution Decision (Paper</p>

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendants' Proposed Construction	Defendants' Identification of Intrinsic Support
				<p>No. 8) (May 13, 2019) at 2-4, 14-15, 17-23</p> <p><i>See also</i> Exs. B7 (WO2010145669), B8 (U.S. Patent No. 7,698,068), B9 (U.S. Patent. No. 8,102,538), B10 (WO2012083967), B11 (JP2004029373)</p>
“the data processing system also configured to derive surface color information ... from at least one of the 2D images used to derive the surface geometry information” (asserted independent claims 1, 29)	“the data processing system configured to derive both surface geometry information and surface color information from the same at least one 2D image captured by said color image sensor”	<p><i>See, e.g.</i>, Ex. B1 ('244 Patent) at: 2:48-64; 3:30-40; 7:14-29; 12:63-13:2.</p> <p><i>See, e.g.</i>, Ex. B3 (IPR2019-00117, Patent Owner's Preliminary Response, (Paper 6) pages 7-9).</p> <p><i>See, e.g.</i>, Ex. B4 (IPR2019-00118, Patent Owner's Preliminary Response, (Paper 6) pages 9-10).</p> <p><i>See, e.g.</i>, Ex. B5 (PGR2018-00103, Patent Owner's Preliminary Response, (Paper 10) pages 6-8).</p>	Defendant proposes a construction for the complete claim phrase. Defendant's proposed construction is above.	See the intrinsic evidence cited above for the complete claim phrase.

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendants' Proposed Construction	Defendants' Identification of Intrinsic Support
		<i>See, e.g.</i> , Ex. B6 (PGR2018-00104, Patent Owner's Preliminary Response, (Paper 6) pages 8-9).		
"low weight" (asserted claims 13, 30)	Definite. No construction necessary.	<i>See, e.g.</i> , Ex. B1 ('244 Patent) at: 8:63-9:6; 11:46-58.	Indefinite relative term	<i>See, e.g.</i> , Ex. B1 ('244 patent) at 8:63-9:6, 11:46-12:9, 13:3-5, 19:31-24:39

Joint Claim Construction Chart (U.S. Patent No. 10,349,042)

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
Preamble (Claims 1, 17, 19, and 21)	No construction necessary.		Preamble is limiting.	<i>See, e.g.,</i> Ex. C1 ('042 patent) at 37:19-40:38 <i>See also</i> generally Ex. C1 ('042 patent)
“intraoral scanner” (Claims 1, 17, 19, and 21)	No construction necessary.	<i>See, e.g.,</i> Ex. C1 ('042 patent) at: 1:24-26; 37:19-52 (Claim 1), 38:43-39:2 (Claim 17); 39:8-31 (Claim 19); 40:1-35 (Claim 21).	“an intraoral scanning device that uses a pre-determined measure of the illumination pattern and contrast detection”	<i>See, e.g.,</i> Ex. C1 ('042 patent) at abstract, 1:20-2:30, 2:36-3:2, 3:3-18, 3:30-42, 3:55-4:23, 4:34-50, 4:52-6:34, 8:4-14:39, 15:15-23, 19:1-22, 27:12-33, 27:48-31:39, 32:20-33:17, 35:39-36:4 Figs. 1, 3a-3c, 4, 9, 13-17 Ex. C2 ('042 File History) Notice of Allowance (May 8), Post Allowance Communication (May 16, 2019) <i>See also</i> Exs. C2 ('042 File History), C3 (US10,349,041 File History), C4 (US10,097,815 File)

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
				<p>History), C5 (US8,878,905 File History)</p> <p><i>See also</i> Exs. C6 (US8,878,905), C7 (US6,697,164), C8 (WO0008415A1), C9 (WO03060587A1), C10 (US2007109559A1), C11 (WO2008125605A2), C12 (US 2005/0283065), C13 (US 2008/0118886), C14 (US 2003/0096210)</p>
<p>“optical system” (Claims 1, 17, 19, and 21)</p>	<p>No construction necessary, but if deemed necessary: “an arrangement of optical components.”</p>	<p><i>See, e.g.</i>, Ex. C1 at: 5:8-12; 37:19-52 (Claim 1), 38:43-39:2 (Claim 17); 39:8-31 (Claim 19); 40:1-35 (Claim 21).</p>	<p>“an arrangement of optical components (e.g. lenses) that transmits the probe light towards the object, images the pattern on the object, and images the object, or at least a part of the object, on the camera”</p>	<p><i>See, e.g.</i>, Ex. C1 (‘042 patent) at abstract, 2:1-12, 3:21-33, 3:64-67, 4:15-18, 5:4-25, 5:34-44, 6:44-7:11, 7:39-61, 15:15-35, 17:50-18:12, 22:24-59, 23:10-19, 24:59-25:19, 26:44-46, 27:3-62, 35:1-36:42, Fig. 1-2, 4-8, 13</p> <p><i>See also</i> Exs. C2 (‘042 File History), C3 (US10,349,041 File History), C4 (US10,097,815 File</p>

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
				History), C5 (US8,878,905 File History)
“focus plane” (Claims 1, 17, 19, and 21)	No construction necessary.	<p><i>See, e.g.</i>, Ex. C1 at: Abstract; 1:50-2:31; 2:34-4:50; 4:51-5:25; 5:62-6:3; 6:44-7:11; 7:35-8:51; 8:52-9:31; 10:15-15:23; 15:60-17:14; 17:22-17:65; 18:23-18:53; 19:56-20:31; 20:62-21:63; 22:24-29; 24:59-26:7; 26:16-53; Figs. 3A, 13, 15; 27:3-30:65; 31:51-32:64; 33:40-61; 35:1-26; 35:39 -36:4; 37:19-52 (Claim 1), 38:43-39:2 (Claim 17); 39:8-31 (Claim 19); 40:1-35 (Claim 21).</p> <p><i>See, e.g.</i>, Exs. C2 ('042 file history), C3 (US10,349,041 file history), C4 (US10,097,815 file history), C5 (US8,878,905 file history)</p> <p><i>See, e.g.</i>, Ex. C2 Comments on Examiner's Amendment dated June 27, 2019; Notice of Allowance dated May 8, 2019; Preliminary Amendment dated March 8, 2019; Originally filed</p>	<p>“a surface where light rays emitted from the pattern converge to form an image on the object being scanned”</p> <p><i>See, e.g.</i>, Ex. C1 ('042 patent) at abstract, 1:50-2:30, 2:39-3:18, 3:30-5:25, 11:47-12:17, 30:12-27, 35:27-36:4</p> <p><i>See also</i> Exs. C2 ('042 File History), C3 (US10,349,041 File History), C4 (US10,097,815 File History), C5 (US8,878,905 File History)</p> <p><i>See also</i> Exs. C6 (US8,878,905), C7 (US6,697,164), C8 (WO0008415A1), C9 (WO03060587A1), C10 (US2007109559A1), C11 (WO2008125605A2), C12 (US 2005/0283065), C13 (US 2008/0118886), C14 (US 2003/0096210)</p>	

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
		<p>Specification and Drawings dated February 28, 2019.</p> <p><i>See, e.g.</i>, Ex. C3 Notice of Allowance dated March 6, 2019; Preliminary Amendment dated July 5, 2018; Originally filed Specification and Drawings dated May 8, 2018.</p> <p><i>See, e.g.</i>, Ex. C4 Amendments to Specification and Drawings dated September 4 and 7, 2018; Response to Notice to File Corrected Application Papers dated September 4, 2018; Notice of Allowance dated July 31, 2018; Amendment After Final dated May 25, 2018; Amendment After Final dated April 26, 2018; Amendment dated January 10, 2018; Amendment After Final dated July 19, 2017; Amendment dated February 7, 2017; Response to Notice to File Corrected Application Papers dated November 7, 2014; Originally filed Specification and Drawings dated September 30, 2014.</p>		

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
		<p><i>See, e.g.</i>, Ex. C5 Response to Rule 312 Communication dated September 22, 2014; Corrected Application Papers dated September 12, 2014; Notice of Allowance dated June 25, 2014; Amendment and Reply dated April 9, 2014; Supplemental Preliminary Amendment dated April 17, 2012; Originally filed Specification and Drawings dated December 6, 2011; Certified Copies of Priority Applications dated December 12, 2011.</p> <p><i>See also</i> C6 (US8,878,905), C7 (US6,697,164), C8 (WO0008415A1), C9 (WO03060587A1), C10 (US2007109559A1), C11 (WO2008125605A2)</p>		
<p>“the at least a part of the probe light”</p> <p>(Claims 1, 17, 19, and 21)</p>	<p>No construction necessary. Antecedent for that claim term is proper.</p>	<p><i>See, e.g.</i>, Ex. C1 at: 37:19-52 (Claim 1), 38:43-39:2 (Claim 17); 39:8-31 (Claim 19); 40:1-35 (Claim 21).</p>	<p>“at least a part of the probe light from the lighting equipment through the optical system and towards the object” is the antecedent for “the</p>	<p><i>See, e.g.</i>, Ex. C1 (‘042 patent) at abstract, 2:39-3:2, 3:3-18, 3:30-42, 3:55-4:23, 4:34-50, 4:54-5:12, 5:21-25, 5:62-64, 8:4-14:39, 15:15-23, 19:1-22, 27:12-33, 27:48-31:39, 32:20-33:17,</p>

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
			at least a part of the probe light,” otherwise indefinite	35:39-36:4, 37:19-40:38, Figs. 1, 3a-3c, 4, 9, 13-17 Ex. C2 ('042 File History) Notice of Allowance (May 8), Post Allowance Communication (May 16, 2019) <i>See also</i> Exs. C2 ('042 File History), C3 (US10,349,041 File History), C4 (US10,097,815 File History), C5 (US8,878,905 File History)
“an image measure” (Claims 6, 7, 14)	No construction necessary.	<i>See, e.g.</i> , Ex. C1 at: 3:19-20; 5:65-6:3; 38:1-8 (Claims 6-7); 38:31-36 (Claim 14).	Indefinite or If not indefinite, “a correlation measure (i.e., degree of correlation between the light input signal measure by the camera and a predetermined reference signal based on the probe light pattern)”	<i>See, e.g.</i> , Ex. C1 ('042 patent) at abstract, 1:40-3:17, 3:30-4:50, 4:54-5:25, 5:65-6:34, 8:4-18:67, 24:59-25:18, 27:55-62, 28:30-31:39, Figs. 15, 16 <i>See also</i> Exs. C2 ('042 File History), C3 (US10,349,041 File History), C4 (US10,097,815 File History), C5 (US8,878,905 File History)

Claim Term	Plaintiff's Proposed Construction	Plaintiff's Identification of Intrinsic Support	Defendant's Proposed Construction	Defendants' Identification of Intrinsic Support
				<i>See also</i> Exs. C6 (US8,878,905), C7 (US6,697,164), C8 (WO0008415A1), C9 (WO03060587A1), C10 (US2007109559A1), C11 (WO2008125605A2), C12 (US 2005/0283065), C13 (US 2008/0118886), C14 (US 2003/0096210)

/s/ Jeff Castellano

John W. Shaw (No. 3362)
Karen E. Keller (No. 4489)
Jeff Castellano (No. 4837)
SHAW KELLER LLP
I.M. Pei Building
1105 North Market Street, 12th Floor
Wilmington, DE 19801
Telephone No.: (302) 298-0700
Email: jshaw@shawkeller.com
kkeller@shawkeller.com
jcastellano@shawkeller.com

Blair M. Jacobs
Christina A. Ondrick
Elizabeth Bernard
John S. Holley
Mark Consilvio
Paul Hastings LLP
875 15th Street, N.W.
Washington, D.C., 20005
(202) 551-1700

Attorneys for Defendant
Align Technology, Inc.

/s/ Geoffrey G. Grivner

Geoffrey Grivner (No. 4711)
BUCHANAN INGERSOLL
& ROONEY PC
919 North Market Street
Suite 990
Wilmington, DE 19801
Tel: (302) 552-4207
Fax: (302) 552-4200
geoffrey.grivner@bipc.com

S. Lloyd Smith (*pro hac vice*)
Kimberly E. Coghill (*pro hac vice*)
Andrew R. Cheslock (*pro hac vice*)
BUCHANAN INGERSOLL & ROONEY PC
1737 King Street
Suite 500
Alexandria, VA 22314-2727
Tel: (703) 838-6514
Fax: (703) 836-2021

Attorneys for Plaintiff
3Shape A/S.